

## CLAIMS

What is claimed:

1. A method for routing information between a first host on a first network and a plurality of hosts on a second network, the method comprising:

5 establishing a routing path between the first host on the first network and one of the plurality of hosts on the second network;

establishing a routing table comprising a plurality of physical network addresses for the plurality of hosts on the second network, each of the plurality of physical network addresses associated with a unique identifier;

10 receiving a message from the first host, the message comprising a destination identifier; determining a physical network address in the routing table using the destination identifier;

mapping the physical network address determined to the message; and

15 routing the message to one of the plurality of hosts using the physical network address.

2. A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 1.

3. The method of claim 1, wherein the routing path comprises a multiprotocol label  
20 switched path.

4. The method of claim 3, wherein the label switched path is established using a Resource Reservation Protocol.

5. The method of claim 3, wherein the destination identifier comprises a multiprotocol label.

6. The method of claim 1, wherein the physical network address comprises a medium access control address.

7. The method of claim 1, wherein the destination identifier is created during the step of establishing the routing path from the first host on the first network to the one of the plurality of hosts on the second network.

8. A system for routing messages, comprising in combination:  
a local routing table comprising a plurality of physical network addresses and a unique identifier associated with each of the plurality of physical network addresses;

a host on a first network;

a plurality of local hosts on a second network, the plurality of local hosts having the plurality of physical network addresses and sharing a globally-routable network address;

a local processing module for determining a physical network address upon a receipt of a message comprising a destination identifier from the host on the first network, wherein the local processing module determines the physical network address based on the destination identifier using the local routing table, and transmitting the message to one of the plurality of hosts on the second network using the physical network address.

9. The system of claim 8, wherein the plurality of physical network addresses comprises a plurality of medium access control network addresses, and the globally-routable network address comprises an Internet Protocol address.

10. The system of claim 8, wherein the identifiers comprise multi-protocol label switching labels.

11. A method for transmitting data, the method comprising:  
establishing a routing path from a first host on a first network to a second host on a second network, the second host comprising a unique data link layer address and sharing a globally-routable network layer address with a plurality of hosts on the second network;

allocating a data link layer identifier for the data link layer address associated with the second host;

storing the data link layer identifier with the data link layer address associated with the second host in a routing table, the routing table comprising a plurality of data link layer addresses associated with the plurality of hosts on the second network, wherein each of the plurality of data link layer addresses is associated with a unique data link layer identifier;

receiving a message from the first host on the first network, the message comprising the data link layer identifier;

determining the data link layer address based on the received data link layer identifier using the routing table;

mapping the data link layer address to the message; and

routing the message to the second host using the data link layer address determined based on the data link layer identifier received in the message.

12. A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 11.

5 13. The method of claim 11, wherein the routing path comprises a label switching path.

14. The method of claim 11, wherein the data link layer identifiers comprise multi-protocol label switching labels.

10 15. The method of claim 11, wherein the data link layer addresses comprises medium access control addresses, and the globally-routable network layer address comprises an Internet Protocol address.

15 16. The method of claim 11, wherein the message comprises Voice over Internet Protocol packet.

17. A system for routing messages, comprising in combination:  
a centralized routing module for generating a routing table for a switch module associated  
20 with a plurality of network entities sharing a globally-routable network address, the routing table comprising a plurality of physical network address associated with the plurality of network entities, wherein each physical network address is associated with an identifier; and  
the switch module for receiving a data packet comprising a destination identifier, the switch module determining a destination physical network address by mapping the destination

identifier to one of the plurality of physical network addresses in the routing table and routing the data packet to a network entity associated with the determined physical network address.

18. The system of claim 17, wherein the unique identifier and the destination  
5 identifier comprise a data link layer identifier.

19. The system of claim 18, wherein the data link layer identifier comprises a multi-protocol label switching label.

10 20. The system of claim 17, wherein the centralized routing module aggregates each label to at least one data flow associated with each of the plurality of network entities.

11 21. The system of claim 17, wherein the centralized routing module allocates an  
12 identifier for each network host upon a receipt of a Resource Reservation Protocol message for  
13 each network host.  
14 15

22. The system of claim 17, wherein upon the allocation of the identifier for each network host, a routing path is created for each host.